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ABSTRACT

The interdisciplinary process is described through a series of case studies of seven persons with severe mental retardation in community group home residences. The clients exhibited a variety of maladaptive behaviors, including aggression, self injurious behavior, and tantrums. The studies describe an approach in which each client's behavior is evaluated with respect to the environmental situation in which maladaptive behaviors are observed. The importance of coordinating medical and behavioral approaches to determine individual client treatment is emphasized. (CL)

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MEDICAL/BEHAVIORAL TREATMENT APPROACHES WITHIN THE INTERDISCIPLINARY PROCESS

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Respectfully submitted,

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MEDICAL/BEHAVIORAL TREATMENT APPROACHES WITHIN THE INTERDISCIPLINARY PROCESS

Introduction

The theoretical and/or applied principal upon which the Interdisciplinary (I-Team) process is based involves the concept of individual treatment approach. This concept is generated from the position that persons as members of groups or in social or cultural contexts engage in behavior which results in consequences based on individual motivators rather than group motivators. When considering indivual motivations, the rationale for persons forming groups and cooperating to achieve objectives is more easily analyzed and conceptualized. It is interesting to note that with the effects of labeling and various theoretical approaches applied to groups of people over the past years that the concept of the I-Team evolved late in the historical development of mental health literature. Typically, one might assume that an individualized approach would have evolved earlier, but a review of history reveals that various theoretical economic trends and single discipline or multidisciplinary methods prevented clients from receiving empirically based treatment training program plans in mental health settings. (Crosby, 1976; Congdon, 1974)

Recently, the concept of individualized treatment methods, which can be verified by scientific evaluation, was established and emphasized due to litigation, legislation and scientific trends, as well as socio-economic trends in public health services. The concept of treating persons based on labels defined by sets of symptoms has gradually given way to the concept of treating persons based on those environmental factors which maintain and precipitate maladaptive behaviors which are socially or environmentally not acceptable. (Janicki & Jacobson, 1980)

In the past, children and adults who have histories of aggression directed at others, self, or property have been admitted or readmitted to a hospital or institutional setting for treatment to reduce or eliminate those behaviors. Typically, the client would not receive a coordinated plan of service but would receive treatments from various disciplines. This conglomerate approach to treatment could not be evaluated utilizing group or individualized statistical methods due to non-controlled manipulation of treatment modalities. (Stolz, 1973)

As stated, the trend toward a coordinated treatment approach was recently established and emphasizes individualized methods which can be scientifically evaluated. This trend facilitated guidelines for an interdisciplinary process within institutional settings and more recently in community-based programs. The interdisciplinary process was described by Crosby in 1976 as "the development of a continuous self-correcting and current program plan for each resident." This process involves:

a. Identifying the specific needs of the resident.
b. Establishing priorities for meeting those needs.
c. Determining programs for meeting priority objectives and assigning responsibility for them.
d. Regularly reviewing the resident's progress toward the objectives.
e. Modifying the objectives and/or the program in light of that progress.

The present paper will consist of a series of brief reports outlining case studies which describe the various functions of the interdisciplinary process. Each case study will emphasize the need for a coordinated medical and behavioral method when establishing individual approaches to client treatment. The present paper will demonstrate that clients with severe mal-

adaptive behaviors benefit from an interdisciplinary approach to treatment in community group home residences without readmission to institutional programs which would remove the client from community group or foster home living situations.

SUBJECT AND SETTING:

The clients represented, currently live in five group homes where the residential population is six persons per home. The ten clients function within the adaptive and intellectual level of profound and severe mental retardation as measured by conventional intellectual and adaptive assessment instruments.

MALADAPTIVE BEHAVIORS:

The case studies reviewed involve clients who engage in the following maladaptive behaviors:

1. Aggression directed at other persons, and/or property.
2. Self-injurious behavior including:
   a. rumination and vomiting of food.
   b. eating non-edible materials and objects (P.I.C.A.)
   c. aggression directed at self.
3. Tantrums--screaming, crying, associated with 1. and/or 2.

PROCEDURES and DEFINITIONS:

1. Food Satiation - allowing a client to consume as much food as he desires. The meal is considered over when the client indicates that food is not wanted on two occasions in a sixty second period. Between meal and evening snacks are provided.

2. Modified diet increase (satiation variation) - the client's daily meal is increased by two to four times the normal amount of food. Between meal and evening snacks are provided.

3. Quiet time - following a maladaptive behavior, the client is told

to go to his room or asked to sit in a chair and relax for approximately five minutes. After a five minute absence of maladaptive behavior, the client is invited to participate in on-going activities.

4. Time-Out - following a maladaptive behavior, the client is escorted to a room. Outside of the room, staff hold the door and continuously monitor the client through a spy scope. The client is prevented from leaving the room until a five minute period of acceptable behavior has passed. The client is limited to a total of one-half hour in the room alone and is removed when the one-half hour limit is reached.

5. Environmental stimulation - the informal interactions between the client and (1) persons he lives with, (2) persons who work at the group home, and (3) the community setting in which he lives.

6. Formal programming - refers to specific individualized training routines in which clients participate. These routines include structured behavior modification programs, as well as skill (habilitation or rehabilitation) training programs. These programs are designed to increase adaptive behavior as well as to decrease maladaptive behavior.

7. Challenge and elimination diet - a diet in which a person is evaluated with respect to allergic response to food. Various foods are presented on a schedule and the client's response is observed and recorded.

8. Rumination of food - bringing up food from the stomach to mouth and swallowing the same food. This action is repeated by the client following meals and/or snacks.

9. Vomiting food - the action of bringing food up from the stomach to the mouth with some of the food spilling from, or forced from, the mouth (outside of the client's body).

10. False positive - when mouth and throat movements are observed which resemble rumination. The "false" aspect is that no food is propelled

from the stomach to the mouth. Some conditions which simulate false positive responses might include (1) excessive salivation and swallowing, (2) sinus drainage with swallowing, (3) belching, and (4) self-stimulation occuring with or produced by mouth movements.

11. Baseline observations - that period of time during which the client is observed prior to implementing treatment or therapy, or changing on-going treatment or therapy. In addition to a current behavior analysis, this period of observation would provide information as to how often maladaptive behaviors are observed. For example, a baseline study might demonstrate that 26 responses of aggression were observed in one month, or that over a period of nine days a client averaged one-hundred and fourty-two responses of food rumination per day following the evening meal.

12. Treatment or therapy - the medical approaches and procedures, and psychological procedures which interface to form any formal program.

13. P.I.C.A. - the behavior of eating non-edible material and/or objects, such as plastic pegs, shoe-laces, hair, fecal material.

SUBJECT/CASE DESCRIPTIONS:

Subject 1 is a blind male who functions adaptively and intellectually in the profound range of intelligence. (See Table 1 and 2) His treatment plan involves a medical and behavioral approach due to the correlation between the incidents of maladaptive behavior and medical conditions which present irritability and/or pain. Medical conditions which appear to be co-variables are allergies, asthma assaults, illness, and dietary factors. His program consists of a reinforcement schedule to increase adaptive behavior and a time-out room consequence when aggressive incidents occur. When maladaptive behaviors are observed to escalate, the I-team initially evaluates medical as well as motivational information when modifying and designing his treatment program. Over the past two years, his rumination

has been controlled by food satiation and dietary programming. Rumination is reported not to occur at his day program (workshop) and rarely at the group home. A vomiting response is occasionally observed when the client is consequated for engaging in aggression.

Subject 2 is a female who functions adaptively and intellectually in the profound range of intelligence. (See Table 1) Her treatment plan involved a medical/behavioral approach to reduce rumination of food. The initial attempt to utilize the food satiation procedure was successful, but the procedure was terminated due to medical complications. The client was medically re-evaluated and found to not tolerate large quantities of food. The medical issues included gastric problems, illness, and urinary problems. This client is currently participating in an increased diet approach and rumination has been reduced to approximately twenty responses per meal as of her eighteen month review.

Subject 2 also would engage in mouth movements which appeared to be rumination of food. Reliability evaluations and follow-up observations conducted by medical and program support staff found that current levels of food rumination do not place this client in a life threatening situation or at risk.

Subject 3 is a male who functions adaptively and intellectually in the profound range of intelligence. (See Table 1) His food rumination was controlled by increasing his diet by four times each portion in addition to between meal and evening snacks. Currently, this individual is participating in a hypoglycemic diet and is losing the weight which was gained as his diet increased. Dietary consistency and access to food appears to be the variable which resulted in reducing food rumination rather than weight gain or reduction.

Subject 4 is a male who functions adaptively and intellectually in the

profound range of intelligence. (See Table 1) His behavior of food rumination occurred at a low rate and was controlled by a diet increase of two times each portion at regular meals with between meal and evening snacks. Interestingly enough, no rapid weight gain was observed and rumination was eliminated.

Subject 5 is a female who functions adaptively and intellectually in the profound range of intelligence. (See Table 1) Her diet was increased by three times each portion and was supplemented by between meal and evening snacks. She responded to treatment but did experience a response recovery after a period of illness which included a liquid diet. The response recovery averaged six hundred ruminations per day. Her diet was reestablished utilizing regular food and rumination is currently not reported.

Subject 6 is a male who functions adaptively and intellectually in the profound range of intelligence. (See Table 1) His diet was increased and food rumination was decreasing when medical issues related to food allergies became a concern. Over the past eight months, the diet increase has been discontinued so that food challenge and elimination procedures are completed.

Subject 7 is a male who functions adaptively and intellectually in the severe range of intelligence. (See Table 1) Extensive observations by medical and group home staff indicated that an organic basis might produce his vomiting behavior. Prior to initiating any behavioral programs to consequate vomiting, various diets and food challenging procedures identified food allergies. Over the past year, vomiting has been reduced by eliminating various foods from the client's diet.

CASE SUMMARIES--TABLE 1:

A review of the case studies suggests that in six out of seven clients, the food rumination and vomiting occurred as a function of food deprivation and medical factors. Once an individualized increased diet was established,

the behavior was reduced or eliminated across the home, school and workshop settings. The long term follow-up of treatment suggests that rumination did not occur as a function of weight but more so due to the amount of food eaten. Subject seven's vomiting behavior was directly correlated with allergic responses to food. With Subject 2, a combination of responses was observed in that all mouth movements were not food rumination. Reliability observations confirmed that with Subject 2, mouth movements which were not rumination would result in false positive data when untrained observers recorded observations. The clients who participated in the food satiation procedure experienced reductions in rumination on the first day of treatment. The clients who participated in the diet increase demonstrated reductions in rumination within the first three days of treatment.

Prior to instituting satiation or modified diet approaches, each client was medically evaluated to rule out medical conditions which might be aggravated by treatment methods. Medical evaluations included blood sugar levels, upper and lower gastrointestinal evaluations, as well as routine physical evaluations.

Subject 8 is a female who functions adaptively and intellectually in the profound range of intelligence. (See Table 2) After placement in a group home residence, the treatment team noted that her maladaptive behaviors were increasing in spite of psychotropic medications and behavior modification programs. In order to systematically evaluate treatment methods, the team suggested that the variable of psychotropic medications be modified while program factors remained constant. When medication reductions were implemented, the frequency of maladaptive behaviors dramatically decreased.

After twelve months of community placement, she is medication free and no maladaptive behaviors were reported since September, 1981.

Subject 9 is a female who functions adaptively and intellectually in the

profound range of intelligence. (See Table 2) She has a history of diabetes and her maladaptive behaviors appeared to be correlated with insulin treatment. After placement in the group home, her maladaptive behaviors increased despite behavior modification program efforts. Medical observations suggested that her medical condition might be a factor which could account for behavior problems. After insulin treatment was evaluated and modified, dramatic reductions in maladaptive behaviors were observed. No maladaptive behaviors were reported during the period between her 6 month to annual follow-up.

Subject 10 is a female who functions adaptively and intellectually in the profound range of intelligence. (See Table 2) The treatment method which reduced her behavior of eating non-edible objects was a combination of diet increase and discrimination training. The discrimination program demonstrated that the client knew the difference between edibles and non-edibles. She was reinforced for handing non-edible items to staff, and allowed to eat edibles from the tray containing edibles and non-edibles. The diet increase appeared to be an important co-variable which reduced the behavior of eating non-edibles. The relationship of adequate diet and P.I.C.A. was informally noted when clients who ruminated food were given increased portions. With those clients, rumination was more of a presenting problem than P.I.C.A. but reductions in both maladaptive behaviors were noted.

CASE SUMMARIES--TABLE II:

The clients and treatment procedures described here are only a sample of cases which illustrate the need for a coordinated medical and behavioral approach. Earlier research studies conducted by Azrin and Holtz verified the relationship of pain stimulating aggressive behavior and this same basic relationship can be observed in human beings regardless of intellectual ability. The case studies also suggest that many times a person's behavior can be changed without intensive behavior modification programs. Essen-

tially, the objective of the treatment team is to evaluate each client's behavior with respect to the environmental situation in which maladaptive behaviors are observed. This individualized approach may reveal that with some persons, maladaptive behaviors are a logical result due to hunger/diet, medical conditions which result in pain or irritation, allergic responses, etc., and lack of an acceptable method to communicate concerns. Too many times, when professionals are operating from a multidisciplinary and/or single disciplinary perspective, an adequate behavior analysis is not completed. An inadequate behavior analysis might result in a professional not considering the medical and motivational variables which stimulate and maintain maladaptive behavior. This can result in clients receiving less than adequate treatment programs as well as treatments which were not needed.

TABLE I

Behavior-- Vomiting and Rumination of Food

R= food rumination V= vomiting RC= response recovery S= satiation (food) DI= diet increase

$\bar{x}$= mathematic average, or he averaged seven behaviors per day over four days.. ($\bar{x}$= 7/day)

Client	Home	Baseline---Results	Behavior	Treatment	1st (7 days)	2nd (days)	6mo.	12mo.	18mo.	24mo.
S-1	1	4 days $\bar{x}$ = 45/session*	R, V	S	$\bar{x}$ = 1.1	0.0	0.0	RC	0.0	0.03
S-2	1	9 days $\bar{x}$ =142/session*	R	S	$\bar{x}$ = 7.1	1*	--	--	--	--
S-3	2	13 days $\bar{x}$ = 40/session*	R	DI	$\bar{x}$ = 7.1	0.0	0.0	0.0	0.0	--
S-4	2	7 days $\bar{x}$ = 3/session*	R	DI	0.0	0.0	0.0	0.0	0.0	0.0
S-5	2	13 days $\bar{x}$ = 68/session*	R	DI	$\bar{x}$ = 0.3	0.3	0.0	RC	0.0	--
S-6	3	2 days $\bar{x}$ = 37/session*	R	DI	$\bar{x}$ = 3.6	2*	--	--	--	--
S-7	4	5 mo.'s $\bar{x}$ = 28/month	V	Food Elimination and Challange	1st (5 months) $\bar{x}$ = 10/month		last 3 months 6/month			

* The behavior was observed following the evening meal. One meal equals one session.

1* Treatment discontinued due to medical conditions, a diet increase is currently in force.

2* Treatment discontinued due to medical conditions, and inconsistency. Food elimination and challange are currently in force.

TABLE II

P = P.I.C.A. T = Tantrum A = Aggression S = Self-injurious behavior

Client	Home	Baseline----Results		Behavior	Treatment	1st month	2nd month	6 mo.	12 mo.	18 mo.
S-1	1	1 month	26 incidents	A	timeout*	22/mo.	4/mo.	1/mo.	10/mo.	5/mo.
S-8	5	2 months	44 incidents	A, P, S	quiet-time*	19/mo.	3/mo.	1/mo.	0.0	-----
S-9	5	1 month	50 incidents	A, T, S	quiet-time*	20/mo.	2/mo.	1/mo.	0.0	-----
S-10	1	2 weeks	13 incidents	P	diet increase*	5/week (two wk.)	1/mo.	1/mo.	0.0	-----

* The programs also included medical variables.

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